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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/747,825

12/29/2003

Tokimi Nago

03-744

6470

34704

7590

02/13/2006

BACHMAN & LAPOINTE, P.C.  
900 CHAPEL STREET  
SUITE 1201  
NEW HAVEN, CT 06510

EXAMINER

BEAUCHAINE, MARK J

ART UNIT

PAPER NUMBER

3653

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/747,825             | NAGO ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Mark J. Beauchaine     | 3653                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 27-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-43 is/are allowed.
- 6) ☒ Claim(s) 27 and 32-35 is/are rejected.
- 7) ☒ Claim(s) 28-31 and 36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/12/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed 7/12/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document which caused it to be listed. Specifically, Japanese Patent Application Publication JP 2001-093017 dated 4/6/01 has not been found in the file of record. The information referred to therein has not been considered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 27 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent Number 5,498,879 by De Man (hereinafter "De Man"). The document recognition apparatus of De Man incorporates transfer plane 3, a plurality of light sources 27, 28 and 33, and plurality of light sensors 4 and 30 that read on the Applicant's passageway, light emitting elements and light receiving elements, respectively. Although the light sources and light sensors of De Man are each arranged in a linear array in lieu of as discrete photocouplers, the photosensors 4 are in close proximity to LED's 27 and 28. Furthermore, photodetectors 30 are positioned between

Art Unit: 3653

light sources 30. It would have been obvious to one of ordinary skill in the art at the time of the invention to enclose the photosensors 4 and LED's 27 and 28, and photodetectors 30 and light sources 30, into common photocoupler housings to provide a compact and easily serviceable and/or replacable photo detection means of documents processed by the apparatus.

Regarding claim 33, although De Man discloses sensor and emitter arrays in lieu of first and second photocouplers disposed in a vertically spaced relationship, the incorporation of light emitters and receivers into photocoupler housings would have been obvious to one of ordinary skill in the art at the time of the invention to provide a compact means of containing said light elements to enable service personnel to easily replace and/or service said elements.

Regarding claim 34, although De Man discloses sensor and emitter arrays in lieu of fourfold assemblies, the incorporation of four of such light elements into a single housing would have been obvious to one of ordinary skill in the art at the time of the invention to provide a compact means of containing light elements to enable service personnel to easily replace and/or service said elements. Regarding claim 35, the arrangement of light sources 33 and sensors 4 on opposite sides of transfer plane 3 reads on the Applicant's vertically spaced relationship of the first and third photocouplers with the second and fourth photocouplers.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over De Man as applied to claim 27 above, and further in view of Patent Number 6,070,710 by

Art Unit: 3653

Hutchinson (hereinafter "Hutchinson"). Although De Man fails to disclose light emitting elements that are actuated at different times, the use of different light emitters in succession in bill validating apparatus is well known in the art. Hutchinson teaches a banknote validator that incorporates LED's 18, 20 and 22 of different colors that read on the Applicant's light emitters. Furthermore, Hutchinson teaches the process of operating emitters of the same color simultaneously (column 3, lines 58 plus) and operating "LED's of a different colour . . . so that the respective different colour measurements are obtained in succession" (column 3, lines 65 plus). The light emitter operation sequence of Hutchinson reads on the Applicant's operation of light emitters at different times. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate sequential operation of light emitter of Hutchinson into the document recognition apparatus of De Man to allow various types of light emitters to be operated by a single operating circuit.

#### ***Allowable Subject Matter***

Claims 37-43 are allowed. Claims 28-31 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Patent Number 5,964,336 by Itako et al because of its light emitting elements 13,  
Patent Number 5,903,339 by Levasseur because of its sensors 124 and 125, and  
Patent Number 4,587,434 by Roes et al because of its LED's 74.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark J. Beauchaine whose telephone number is (571)272-6934. The examiner can normally be reached on 8:00AM through 5:00PM Mondays through Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571)272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3653

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mjb



**EILEEN D. LILLIS**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600